



PASSPORT TO CULTURE

6th Season

2002-2003

Teacher's Resource Guide for
A JOYOUS GOSPEL HOLIDAY

Daryl Coley and the NJPAC Jubilation Choir and Band

Grades 6-12



A Joyous Gospel Holiday features the New Jersey Performing Arts Center Jubilation Choir under the direction of Stefanie R. Minatee, the NJPAC Jubilation Band, and guest artist Daryl Coley, lifting their spirited voices in song to celebrate the holiday season. The performance includes African-American sacred music and holiday standards that will bring joy and musical cheer to audiences at this festive time of the year.



The New Jersey Performing Arts Center (NJPAC) Arts Education Department presents the sixth season of the *Verizon Passport to Culture SchoolTime Performance Series*.

With *Passport to Culture*, Verizon and NJPAC open up a world of culture to you and your students, offering the best in live performance from a wide diversity of traditions and disciplines. At NJPAC's state-of-the-art facility in Newark, with the support of Verizon, the SchoolTime Performance Series enriches the lives of New Jersey's students and teachers by inviting them to see, feel, and hear the joy of artistic expression. The exciting roster of productions features the most successful New Jersey companies as well as performers of national and international renown. Meet-the-artist sessions and NJPAC tours are available to expand the arts adventure.

To help you enhance the live performance experience for your students, NJPAC provides this Teacher's Resource Guide and professional development workshops designed to reinforce the educational value of each production in the series.

The *Verizon Passport to Culture SchoolTime Performance Series* can make a world of difference – to your students and to you – right here in New Jersey, at NJPAC.

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TO TEACHERS AND PARENTS:

The resource guide accompanying each performance is designed:

- to maximize students' enjoyment and appreciation of the performing arts;
- to extend the impact of the performance by providing discussion ideas, activities, and further reading that promote learning across the curriculum;
- to promote arts literacy by expanding students' knowledge of music, dance, and theater;
- to illustrate that the arts are a legacy reflecting the traditional values, customs, beliefs, expressions, and reflections of a culture;
- to use the arts to teach about the cultures of other people and to celebrate students' own heritage through self-expression;
- to reinforce the New Jersey Department of Education's Core Curriculum Content Standards in the arts.

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NJ CORE CURRICULUM CONTENT STANDARDS IN THE ARTS

The *A Joyous Gospel Holiday* concert coupled with this guide's suggested pre- and post-performance activities and discussion topics offers ample opportunities to implement the Arts Standards. Students will increase their aesthetic awareness through the exploration of Gospel and traditional holiday music, as well as through discussion of musical styles, presentation techniques, and the function of music in society. They will hone their perceptual, intellectual, physical, and technical skills by creating their own music and movement as a reflective response to the performance. Discussion about and expectation of appropriate behavior at a concert performance will help polish social skills. Reviewing and evaluating the performance will create critiquing opportunities, which develop verbal and written communication skills. Learning about varied holiday traditions and practices expands students' knowledge and understanding of other cultures. It also increases awareness of and pride in their own traditions. The study of African American music with an emphasis on Gospel forms allows students to understand that this music developed in response to historic social, political, and religious conditions and continues to evolve today as a reflection of contemporary society.

THE PERFORMANCE/ PRODUCTION

A Joyous Gospel Holiday combines African American sacred music and favorite Christmas standards in a jubilant celebration of the holiday season. The festivities spotlight the soul-stirring sounds of Daryl Coley as well as the spirited music of the NJPAC Jubilation Choir conducted by Stefanic R. Minatee. The choir will be accompanied by the NJPAC Jubilation Band.

The choir's repertory for the concert will include *My Life, My Love, My All* by noted Gospel singer-composer Kirk Franklin. The work is a sweet melodic love song to God with beautiful harmony. Attentive audience members will hear the melody lift through each line of the verses. The song is full of dynamics as the final verse declares the beauty of life's end, when the trials and tribulations cease and God calls His children home.

In a change of pace, the choir will turn to the versatile Franklin's up tempo song *When I Get There*, which has a funky hip-hop beat with driving horn accompaniment and a riveting bass line. The signature Gospel element of call-and-response is present throughout. The audience will be encouraged to join the choir in this infectious rhythmic selection.

Demonstrating the great variety found in African-American sacred music, the choir will sing *My Everything* by the award-winning Gospel composer, singer, arranger Richard Smallwood. The work

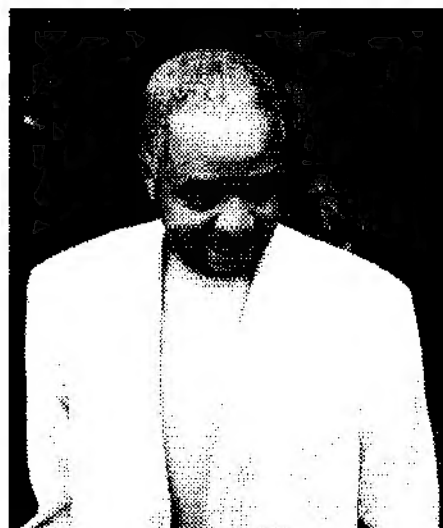
is a slow moving, anthem-like song of praise to God. The song format of the piece changes noticeably throughout. The first section begins with the choir in a sweet harmony and builds dynamically. The second section gains in volume with the voices resembling a crying out to God in thanksgiving and adoration. The work then returns to section one as a sort of refrain. In the third section, the sustained note of the sopranos is heard, with the altos and tenors responding. The song climaxes in a harmonic change of intervals and concludes with a return to the introductory first section.

In the spirit of Christmastide, the choir will sing seasonal selections including a carol from the Ukraine, *Carol of the Bells* by Wilhousky and Leontovich. This beautiful piece vocally evokes the ringing of bells. The sopranos open the carol, with altos, tenors, and basses entering beneath the beginning theme. The massed voices swell to a climax, and diminish to a hushed whisper.

Following several selections by guest artist Daryl Coley, the concert will conclude with the choir joining Mr. Coley in a stirring rendition of his hit song, *He's Preparing Me*. This testament of faith confirms that God is always preparing His faithful for what will come in life. It further states that no matter what occurs to each believer it is ultimately for his or her own good and that God equips each person to handle any situation.



THE ARTISTS



Daryl Coley, appearing as a guest artist in *A Joyous Gospel Holiday*, is acclaimed for having the emotional impact of a blues singer, the improvisational gift of a jazz vocalist, the range and control of a classical tenor, and the strength of spirit of a Gospel soloist.

Few vocalists have been able to merge the very best of so many musical genres into a cohesive musical vision. As a nationally renowned recording artist for more than 20 years, Daryl Coley's ability to do that effortlessly, while

THE ARTISTS (continued)

remaining true to the message of the church he loves, has made him one of the most unique and celebrated contemporary musical artists.

A native of California, Coley was born in Berkeley in 1955 and raised in Oakland. During these formative years, he was influenced equally by his upbringing in the African-American church and his vocalist mother's love for Gospel, classical, and jazz music. His teenage years were filled with vocal and instrumental training in school bands and regional choirs. By the time he entered college, his talent as a singer and keyboardist was widely recognized.

In 1977, Coley's unique musical abilities earned him the opportunity to perform with the legendary Hawkins family. As a singer with Edwin Hawkins and later a songwriter and musical director for Tramaine Hawkins, Coley began to establish a name for himself on a national level. Lead vocal appearances on several high profile albums with the Hawkins family and with James Cleveland's Gospel Music Workshop of America, led to Coley's solo debut, *Just Daryl*, in 1985. The string of award nominations and chart-topping albums has never ceased since that time.

Coley has recorded a landmark collection of studio performances, yet his greatest impact in the Gospel music arena has always been the strength of his live performances. With a simple inflection, a slight change of rhythm, a split-second decision to emote with great passion or retreat into a pocket of vocal coolness, he captures the spirit of the music and the lyric. In a live performance, Daryl Coley is entirely in his element, intuitively sensing the pulse of his audience. His consistent artistry in maximizing the concert moment remains unrivaled.

Stefanie R. Minatee, musical director of the NJPAC Jubilation Choir, received her B.A. in Music Performance from Kean University, in Union, NJ, and a B.A. in Religious Education from Union Bible College, in Orlando, FL. She presently teaches vocal music at Plainfield High School in Plainfield, NJ. Ms. Minatee was chosen to be listed in the Who's Who of American Women for 2002-3. Listed in the 2000 edition of Who's Who Among America's High School Teachers, Ms. Minatee is the 1992 recipient of the Westry Horne Excellence in Education Award presented by Frontiers International. She is also a former artist-in-residence for the NJ State Council on the Arts.

Her compositions, which have been recorded by many artists, number more than 100 songs including music for theater productions, children's tunes, message songs, pop literature, and Gospel songs. She is a voting member of the National Academy of Recording Arts and Sciences, the organization whose members nominate and vote for the Grammy Awards. A licensed evangelist and associate minister at the First Baptist Church of Nutley, NJ, Ms. Minatee is also a frequent guest preacher. She will be ordained for the ministry in November 2002. She has worked with and recorded with both sacred and secular artists such as Ray Charles, Ben E. King, Queen Latifah, Cissy Houston, Walter Hawkins, Albertina Walker, Dorothy Norwood, and Rev. Lawrence Roberts.

The NJPAC Jubilation Choir, established in October 1998 under the auspices of the Center's Arts Education Department, is dedicated to performing African American sacred music with an emphasis on the Gospel tradition. The choir reflects NJPAC's mission of

upholding high standards of performance and presenting the state's finest artists. The choir members range from 16 to 80 years of age and hail from nine counties in New Jersey as well as from New York City. Of the 120 voices that comprise the NJPAC Jubilation Choir, 18 are drawn from NJPAC staff members or volunteers. The choir has performed with Cissy Houston, Shirley Caesar, Walter Hawkins, Queen Latifah, Isaac Hayes, Michael Bolton, Donnie McClurkin, Ronan Tynan, and the Jenny Burton Experience. In 2000, the choir appeared at the Tilles Center on the C.W. Post campus of Long Island University. The New Jersey Performing Arts Center Jubilation Choir will release its first CD entitled *A Song Service* in December 2002. Featured guest artists will include Sam Harris, Rev. Lawrence Roberts, Queen Latifah, Albertina

Walker, and Dorothy Norwood. The choir recently performed at the opening ceremonies of the U.S. Open Tennis Tournament at Arthur Ashe Stadium, in Flushing, NY. They accompanied Queen Latifah in singing the national anthem, as arranged

by Ms. Minatee. The arrangement and performance received rave reviews.

The NJPAC Jubilation Band, which accompanies the choir in this performance, includes Alan R. Cherry, leader/keyboards; Michael Westbrooks, organ; Kevin Parker, bass; and Reggie Qualls, drums. They who have been performing together as this group for four years. Individually gifted musicians, they have all played for over 20 years with prominent sacred and secular artists.



Stefanie R. Minatee

ELEMENTS OF A MUSIC PERFORMANCE

arrangement - a new adaptation and orchestration of an already existing musical piece.

band - a group of musicians organized to play together, usually on woodwind, brass, and percussion instruments.

chord - three or more tones having a harmonic relation to each other and played or sounded together.

chorus - the part of a song or piece of music that is repeated at intervals.

composer - a person who writes music.

dynamics - (in music) moving from loud to soft and soft to loud.

Gospel - a form of vocal music originally developed in the African American

Baptist churches of the southern United States. It incorporates elements of African rhythm and music, expressive singing, and, often, musical accompaniment. (See "Customs, Cultures, and Social Forces," pg. 6.)

harmony - the result of certain musical intervals or chords which relate to each other and sound pleasing.

interval - the difference in pitch between two tones.

lyrics - the words of a song.

melisma - the singing of several notes on one syllable.

melody - an organized succession of single musical tones arranged in a related and recognizable pattern.

music - the resonant tones and vibrations that emanate from one or more voices and/or instruments.

musical director - a person who oversees all aspects of a vocal or instrumental ensemble, often serving as its conductor.

percussion - a group of musical instruments in which music is made by beating or striking the musical instrument. The most common

percussion instrument is the drum.

repertoire - the complete list of dramas, operas, dances, songs, or musical works available for a performance by an individual or a group at a given time.

rhythm - a regular pattern produced by the length of strong and weak musical sounds at a particular speed or tempo.

solo - a performance by one person.



SOME GOSPEL NOTABLES

Gospel music has evolved through the artistry and spiritual devotion of many singers, composers, and ministers, a few of whom are listed below.

Thomas Andrew Dorsey (1899-



1993) is known as the "Father of Gospel Music." Born in Villa Rica, GA, he was the son of a minister and an organist. He studied briefly at the Chicago College of Composition and Arranging, and played jazz during his early years as a musician. However, after a nervous breakdown, he returned to the music of his Christian roots. He published over 500 Gospel songs including "Precious Lord," traveled around the country teaching them, and opened the first publishing company for African-American Gospel music.



Mahalia Jackson

(1911-1972) grew up in a tight-knit family of devout Baptists. By the age of 12, she distinguished herself as a member of a junior choir. Early seminal influences included the music she heard coming from a sanctified church in her neighborhood and recordings of popular blues singers of the time. By age 15, her alto voice and distinctive style were fully developed. From Bessie Smith, she borrowed a deep and dark resonance that complemented her own timbre; from the Baptist tradition, she wove the

(continued on page 6)

moaning and bending of notes; and from the sanctified church, she adopted the full-throated singing style that comes from being filled with the spirit.

James Cleveland (1931-1991) was a Gospel singer, pianist, composer, and conductor. Born in Chicago, he began piano lessons at the age of five. By the age of eight, he was a soloist in Thomas Dorsey's Junior Gospel Choir at the Pilgrim Baptist Church. As a teenager, he composed his first Gospel song, "Grace Is Sufficient," which is now part of standard Gospel repertoire. He preferred the call-and-response delivery when singing and composed over 500 Gospel selections. He organized the Gospel Music Workshop of America, which by 1980 had several hundred thousand members.



Shirley Caesar is a native of Durham, NC. Known by the age of ten as "Baby Shirley, The Gospel Singer," she is currently considered "The First Lady of Gospel." She has an extensive range, sings high alto with a rapid and agile vibrato, and has a mesmerizing vocal style like that of a preacher. An evangelist, she is the pastor of Mount Calvary Work of Faith Church in Durham, NC.



Charles Albert Tindley (1851-1933) was an intellectual, preacher, orator, civil rights leader, and caretaker of the downtrodden. Born in Berlin, MD, he taught himself to

read and write. Passing his ministerial examination in 1885, he pastored churches in Cape May, NJ and Philadelphia. He composed over 45 Gospel songs, the most popular being "Some Day," "Stand by Me," and "Leave It There."

The Dixie Hummingbirds, a group organized by James Davis in Greenville, SC, were heavily influenced by jazz and show tunes. The lead singer originated the practices of running up and down the aisles, jumping from the stage, and spinning around without sacrificing the musical sound, thus becoming the model for many rhythm and blues singers from Jackie Wilson to the Temptations. The group's recordings included *Lord, Come See About Me*; *Search Me Lord*; *Jesus Will Answer Prayer*; and *Dear Lord, Look Down Upon Me*.

Clara Ward and the Ward Singers began recording in 1947. "Surely God Is Able" is one of their most popular songs. The singers set the standard for female



Gospel groups through their vocal arrangements, by performing in sequined gowns, and by traveling in Cadillacs with trailers. Clara Ward influenced many Gospel and soul singers including Aretha Franklin and Della Reese.

CUSTOMS, CULTURES, AND SOCIAL FORCES

THE ORIGINS OF GOSPEL MUSIC

The origins of Gospel music lie within the history, development, and continuum of the African-American musical tradition, which has its roots in the various ethnic groups of Africa.

Though these groups may differ in name or language, they have similarities that serve as the foundation for traditional African culture. For example, music and song play an integral role in each ethnic group, documenting the history, thoughts, feelings, opinions, and values of the society.

The effect of this commonality was seen on ships carrying enslaved African people to the New World. No two Africans from the same ethnic group were boarded together, thereby insuring that shipmates could not communicate verbally and plan an insurrection. However, the Africans communicated through rhythmic moaning and chanting that spoke directly to issues they faced in common: degradation, humiliation, and enslavement. On Southern plantations in America, the chants became field hollers as enslaved African Americans moaned out their sorrows, while laboring in fields.

To circumvent the abolitionist movement, which asserted the inhumanity of slavery, plantation owners sought to give their bondmen and bondwomen religious instruction. Enslaved African Americans were introduced to Christianity in the early 1700s during

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affirm conversion.**

The Great Awakening. They sang Protestant hymns in the manner that they witnessed during plantation services led by white ministers. Although plantation owners included their charges in these religious services, the Black churchgoers were segregated from their white counterparts, a practice continued in churches until the early 20th century. The custom of "lining the hymn" was called "raising the hymn" by enslaved African Americans and constituted a song leader singing a line of the hymn immediately followed by the congregation singing the same line:

Leader: Praise God, from whom all blessings flow;

Congregation: Praise God, from whom all blessings flow.

Around the turn of the 19th century, a new type of song entered the African-American musical repertoire. This music was inspired in part by the Second Great Awakening that ushered in the camp meeting revival, a series of nightly church services. Although such gatherings often featured a prominent minister and invited singers and choirs, in the early days there were no special vocalists. Congregational music and song were integral parts of the service. As a revival's purpose is to assist those seeking redemption from sin, the visiting ministers encouraged singing, shouting, and leaping for joy to support and affirm conversion. The songs were also set to a tempo that enslaved African Americans accentuated with a slide and stomping motion, usually performed in a circle and known as the ring shout. By the late 1800s, the ring shout was no longer practiced. However, its fervor, blended with indigenous African musical expression, had already given

rise to the spiritual. Many of these songs spoke of going to heaven as a means of gaining freedom from earthly woes. References to oppression, discrimination, and the struggle to survive were common themes as expressed in the following song:

Nobody knows the trouble I see,
Nobody knows my sorrow;
Nobody knows the trouble I see,
Glory hallelujah.

Some songs had an encoded message. The words to the following spiritual signaled that the underground railroad, a secret system that carried enslaved runaways to freedom, was coming through town.

Swing low, sweet chariot,
Coming for to carry me home;

Often the enslaved African Americans not only adopted Old Testament heroes and celebrated them in song but also aligned their plight with that of the biblical figure. In the following spiritual, Moses became the abolitionist, the Israelites were equated with the enslaved, and Pharaoh became the slave owner:

Go down, Moses, way down in
Egypt's land,
Tell old Pharaoh to let my people go.

Enslaved African Americans never responded with total passivity to their situation. They protested their servitude by work slow downs, breaking farm equipment, escaping, poisoning their owners, and burning down plan-

tations. As their protest and that of the abolitionists increased, and as the Civil War raged on, many of the enslaved felt strongly that earthly freedom was soon to come. Songs of celebration spoke of the anticipated freedom:

In that great gettin' up morning,
Fare ye well, fare ye well;

The melodies of these religious folk-songs had only a few tones, often as few as five. These melodies were coupled with blue or flattened notes that later became the principal element of the music known as the blues. Though the harmonies were reminiscent of Protestant hymns, the songs' rhythms were the intricate patterns remembered and passed down from their African ancestry. It was common to divide the song into two parts: one for the leader; the other for the remaining singers. This call-and-response format was also carried over from traditional African customs.

Leader: There is power,

Others: Power,

Leader: Power,

Others: Power,

Leader: Wonder working power. In the blood,

Others: In the blood of the lamb,

Leader: Of the lamb,

Others: In the blood of the lamb.

It is unknown exactly how and when many of these early spirituals were written. However, William Frances Allen reported in *Slave Songs of the United States* the following account by a former enslaved individual documented in 1867:

*My master call me up, and order me a
short peck of corn and a hundred lash.
My friends see it, and is sorry for me.*

When dey come to de praise-meeting dat night dey sing about it. Some's very good singers and know how; and dey work it in-work it in, you know, till they get it right; and dat's de way.

In *Black American Music: A History*, author Eileen Southern states that many of these songs were probably written first by congregations in African-American churches in the North. She goes on to say that the congregations used the "sense" of some Protestant hymn and "reworked the text to fit their needs but supplied original melody and harmony." In either case, it is important to note that the African-American spiritual was the predominant force in shaping the composition and singing style of African-American sacred music. The spiritual also became the first music considered "American" by people outside of the United States.

In the last quarter of the 19th century, white composers began to publish what they considered Gospel hymns. However, these hymns were always sung with the same notes, chords, and rhythms, leaving no room for improvisation, a characteristic of African-American musical style. By 1900, the improvisational singing style was firmly rooted in most African-American religious services across the country.

In 1903, a white minister, Charles Parkham, opened a Bible School in Houston, TX. African Americans were invited to attend, although they were segregated from their white brethren. While white Methodists were attracted to the services, they were also embarrassed by the

zeal and frenzy of these Holiness rites. The theology, however, attracted African Americans including William Joseph Seymour. In 1906, he relocated to Los Angeles to pastor a small church of Holiness members. He began a series of sermons that addressed the doctrine of the Holy Ghost and that postulated the notion of speaking in tongues. Seymour considered himself and his congregation Pentecostal. Characteristics of their faith included shouting, a holy dance mentioned in Psalm 149:3; humiliation through washing one another's feet, based on John 13:5; and experiencing visions and trances. Such practices were reflected in services at Seymour's Azusa Street Revival, named for the street where the church meetings were held.

This revival differed from previous ones in four important ways: it was initiated by and for African Americans; the main goal of the revival was to become "saved, sanctified, and filled with the

Holy Ghost;" African Americans involved whites in the service and insisted on complete interracial participation; and the principal music that was sung during the services reflected African-American musical sensibilities. The

Azusa Street Revivals were a primary catalyst in the formation of Gospel music. They also ushered the Holiness faction into theology.

By the 1930s, Pentecostalism had become engrained in African-American



William Joseph Seymour

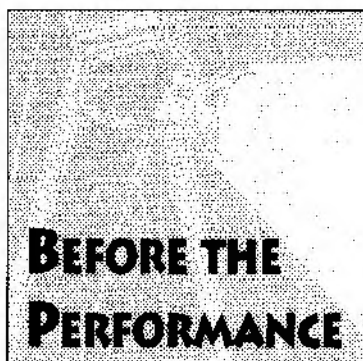
communities, appealing to those who felt the Baptist and Methodist denominations did not satisfy their spiritual needs. This group of worshippers separated themselves from other denominations and created a service style, music, language, behavior,

dress, and perspective regarding their place among Christians. In addition, they chose Gospel music as the illuminating force to accompany their services, which were characterized by jubilant singing, hand clapping, foot stomping, dramatic testimonies, and beating of drums, tambourines, and triangles. Pots, pans, and washboards were also used when professional instruments were not available.

Authentic Gospel music was being recorded by major record companies, such as Okeh, RCA, Victor, Paramount, and Columbia by the mid 1920s. The many "race records," recordings featuring African-American artists produced between 1924 and 1949, testify to Gospel's popularity among African Americans as well as whites' fascination with the music.

Many individual singers and quartets, singing clergy, and jubilee singers helped make Gospel music popular. Sunday afternoon Gospel concerts became a fixture in Baptist and Pentecostal churches by the 1940s. Since then, Gospel music has evolved from churches and radio to Broadway musicals and the international music scene. Its contemporary sound has been blended with jazz, rhythm and blues, and hip hop. Gospel music has been transformed, transmuted, and synthesized, becoming a part of the overall fabric of American music.

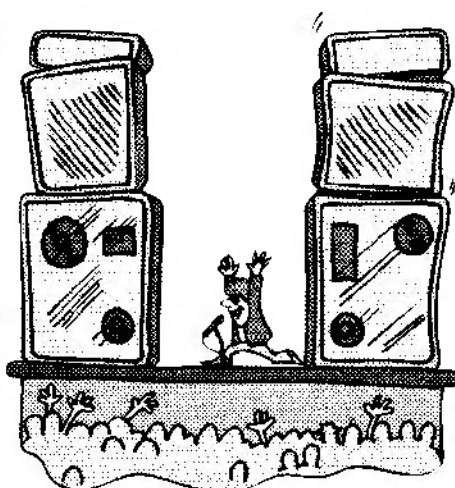




1. Ask students what they know about Gospel music. Discuss how this music came to be and how it has changed over the years. (See "Customs, Cultures, and Social Forces," pg. 6.)(1.1, 1.5)*

2. Familiarize students with the types of music that they will hear at the concert. Discuss the differences between traditional holiday songs and Gospel music. Ask students what types of music are sung to celebrate the holidays in their church or family gatherings. Are the songs sung by a choir? Is the choir accompanied by musical instruments? If so, which instruments are used? Have students share their experiences with the class.(1.1, 1.5)

3. Ask students if they have heard songs by James Cleveland or Kirk Franklin or the female groups Trin-i-tee 5:7 or The Barrett Sisters. Play recordings by these artists for the class. Since the music represents various styles of Gospel, ask students to describe what they hear and feel after listening to the songs. Discuss their reactions. Does the music sound more sacred or secular? What other types of music does it remind the student of? (1.4)



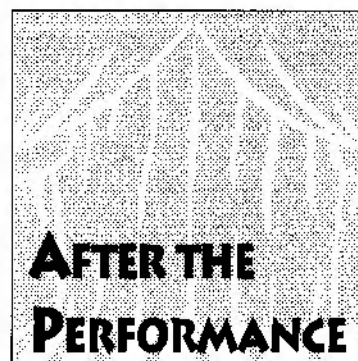
4. Point out the differences in a song that is sung by one person as opposed to the same song sung by a choir of mixed voices. How would the song differ if it were sung by an all-female or an all-male choir? If any students sing in choirs, ask them to share their experiences with the class.(1.1)

5. Ask students if they have been to a live concert. Discuss the differences between live and filmed or recorded entertainment. Point out that as audience members in a theater they will be aware of the entire stage, the lights, ushers, noises, and other audience members. However, when watching television or a movie, they see only what the camera focuses on.(1.1)

6. Ask students what they think is appropriate behavior in a theater. How should the behavior differ when attending a live performance as opposed to going to a movie? Stress that performers appreciate attentive, receptive, and

responsive audience members who demonstrate that they are enjoying the show by reacting and applauding at appropriate times.(1.1)

*Number(s) indicate the NJ Core Curriculum Content Arts Standard(s) supported by the activity.

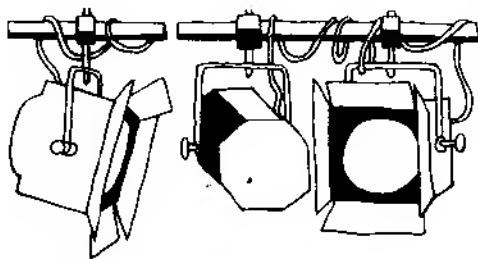


1. Did the students recognize any of the music performed at the concert? Were the songs arranged differently from the way that students had heard them before? Ask students to share their feelings about the arrangement sung at the concert. Have them describe versions of the song heard previously. Where did they hear the songs before? On the radio? In church? Ask each student to list his or her favorite song in the concert. Why did he or she make this choice? Have each student write a brief review of the concert based on his or her observations and reactions.(1.4)*

2. Ask your students to each write briefly about which type of songs they liked best – traditional holiday or Gospel. Ask them to also indicate their favorite Gospel and favorite holiday selection in the concert. Then have students share their choices and the reasons for making them. (1.4)

3. Ask students how the concert differed from hearing music on CDs, cassettes, TV, radio, or film. Did the large space of the theater make them experience the music in a different way? (1.1, 1.4)

4. Ask students how the use of lights at the concert affected what they heard, felt, and visualized. If they were the lighting designer for the show, what would they have done differently? (1.1, 1.4)



5. Plan an international holiday celebration. Let each student bring in holiday songs from his or her culture including any background information on the music. Ask students to share food and any specific cultural garments that are worn during the holiday season. Students can also share with the class any cultural rituals or stories that are practiced or told during this time of the year. (1.5, 1.6)

6. Play a variety of Gospel selections for your students, such as songs by Donnie McClurkin, Cissy Houston, James Cleveland, Mahalia Jackson, BeBe Winan, Kirk Franklin, or Aretha Franklin. After listening to the music, ask students to explain any differences in the music of the various artists with regard to style, rhythms, musical accompaniment, and lyrics. (1.1, 1.4)

7. Discuss the themes that are inherent in Gospel music. Encourage individuals or groups of students to write their own Gospel songs. They may choose to use an already existing melody or create new music. Share these compositions in informal performance with accompaniment, movement, etc. (1.2, 1.3)

*Number(s) indicate the NJ Core Curriculum Content Arts Standard(s) supported by the activity.

TEACHING SCIENCE THROUGH MUSIC (GRADES 6-12)

by Joy M. Barnes-Johnson, M.Ed.

The difference between music and noise is clear: music is a discernible pattern of sounds. Words coupled with sound patterns create songs. Using the Schoolhouse Rock® CD as a guide, have students write jingles that teach science concepts.

Besides through lyrics, how is music perceived? The expansion of air and, consequently, the increased kinetic energy of particles resulting from this expansion make the perception of sound possible. Sound travels in waves, and the effects of the vibrating, wave-energized air on the ear create sound. Teach wave properties using a piece of paper. Ask students to hold a piece of paper tautly about 5" away from the mouth. Instruct students to speak and feel the vibrations of the sounds. Repeat the exercise bringing the paper gradually toward the mouth. When the paper touches the lips, ask students to hum a tune and feel the difference between the wave patterns created by the tune versus speaking. In the human body, the tympanic membrane of the ear vibrates in the same way as the paper does. Similarly, the sound of the open steel drum is quite different from that of the closed snare drum. Explore the chemical and physical properties of materials used to make these percussion instruments and how they effect the instruments' sound.

Lead a discussion of electromagnetism and wave properties: wavelength, frequency, and amplitude. The

electromagnetic spectrum consists of radio, infrared, visible light/color, microwaves, ultraviolet, x-rays, and gamma rays. Because the longest waves are radio waves, sound can be heard and felt. A radio is an excellent instructional resource. Compare frequency modulation (FM) to amplitude modulation (AM); consider the difference in sound quality on each band. An intermediate FM frequency (95.0-FM); 95,000,000 waves per second (Hertz), is more than 100 times greater than a similar AM frequency (650-AM) where only 650,000 waves are transmitted. Have students count the number of radio stations from a low FM frequency (88-FM) to a high frequency (108-FM). Interference is greater at intermediate frequencies because there are more stations transmitting signals between 92 and 106 on the radio dial, as well as various physical and spatial obstructions between signal transmission and reception. Related ideas for student exploration include the technology of satellites, cable, and wireless/remote services.

The quality of sound lies in its clarity, which depends on the frequency and amplitude of individual tones working together. It is easier to hear the quality of sound by breaking it down into the separate notes comprising it. Examine the role of the "tuner" before a concert begins. One note is played on an instrument; all other instruments are aligned to this note. If a note is picked at the very end of the strings on the body of the guitar and the same note is picked over the hole, the difference in quality can be heard. The sound waves of the second sound are better able to vibrate and their frequency and amplitude are greater than the frequency and amplitude of the first sound. Thus the second sound is much clearer. Have students make a rubber band "fist-banjo" to demonstrate this point.

Orchestral concert attendees can appreciate

ciate the skill of the musicians and the labor required to play instruments for a 20-minute composition. Work=Force exerted through a distance ($W=Fd$). Calculate the Work required to play different wind instruments. Though similar to the flute, the piccolo is much smaller. The distance from the mouthpiece to the outlet is greater on a flute. This greater distance translates into more "work." Have students turn plastic and/or glass soda bottles into wind instruments. Put different levels of liquid in at least three bottles. Blow into the bottles to hear the difference created by the length of the air column distance, the composition of the instruments, and the density of the liquid. Relate these ideas to the differences in sounds created by wooden or bamboo flutes, metallic fifes, plastic recorders, or muted horns.

The foregoing activities address the NJ Core Curriculum Content Standards for Science 5.3 and 5.7, Math 4.2, and Visual and Performing Arts 1.3.

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NJPAC

The New Jersey Performing Arts Center, which opened in October, 1997, includes the 2,750-seat Prudential Hall, the 500-seat Victoria Theater, the Lucent Technologies Center for Arts Education, a restaurant, banquet facilities, gift shop, convenient parking, and Theater Square, an outdoor performance space. A new kind of performing arts center, equipped to present world-class events representing every conceivable art form, both traditional and popular, NJPAC stands as a symbol of community, excellence in artistic expression, and international cultural exchange.

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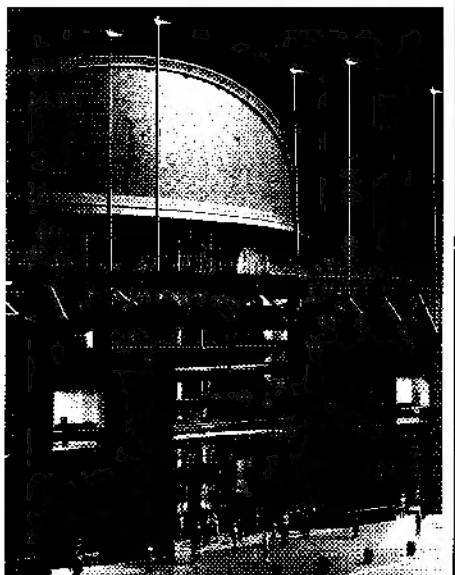
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